

REMARKS

Claims 1 and 3-21 are pending in the application, are rejected and are at issue.

Applicants' attorney would like to thank the examiner for the courtesies extended during the recent interview. As discussed, none of the references disclose or suggest that the housing is joined to the electrical switching apparatus using linear motion of the housing from in front of the electrical switching apparatus and means actuated by the linear motion of the housing from in front of the electrical switching apparatus for resiliently locking the housing to the electrical switching apparatus. This is a single axis motion from in front of the housing. The examiner agreed that Lehman et al. does not disclose such structure. Lehman et al. require a dual axis motion. As discussed in the interview, and to avoid an appeal, the claims are amended herein to recite the single axis motion and that the actuation elements are both engaged and locked in the same motion. Entry of the amendment and reconsideration are requested.

Applicants traverse the rejection of the claims as obvious over Lehman et al. U.S. Patent No. 4,774,484 in view of McGary U.S. Patent No. 3,290,628 and Reid et al. U.S. Patent No. 5,907,267.

Independent claim 1 specifies a contact assembly for use in an electrical switching apparatus having an actuator. The contact assembly comprises a housing enclosing an electrical contact and a pusher selectively actuatable by the actuator to operate the contact. Means are provided for joining the housing to the electrical switching apparatus comprising a tenon on the housing received in a mortise on the electrical switching apparatus using linear motion of the

housing from in front of the electrical switching apparatus. Means are provided actuated by the linear motion of the housing in a single axis motion from in front of the electrical switching apparatus for engaging and resiliently locking the housing to the electrical switching apparatus.

No proper combination of the references provide means for joining a housing comprising a tenon on the housing received in a mortise on an electrical switching apparatus using linear motion of the housing from in front of the electrical switching apparatus, or means provided actuated by the linear motion of the housing in a single axis and from in front of the electrical switching apparatus for engaging and resiliently locking the housing to the electrical switching apparatus.

Lehman et al. disclose a contact assembly having a housing including L-shaped ribs inserted by moving the housing toward the electrical switching apparatus, as shown in Fig. 9, to be received in openings in the electrical switching apparatus. The housing is then moved sideways so the L-shaped ribs engage the sides of the openings. Additionally, a flexible lever 36 has a projecting knob which when so mounted is received in a further opening 162 in the electrical switching apparatus. The relationship is possible owing to the use of two axes motion in that the contact assembly housing is moved toward the contactor housing from the side to deflect the lever arm and then moved sideways for the ribs to engage the housing and the lever to flex inwardly so that the knob 138 is received in the opening 162.

The Office action acknowledges that Lehman et al. do not disclose locking means formed of a mortise and tenon and the specific arrangement of the actuator element relative to the

auxiliary switch and the specific arrangement of the locking means on the housing. In fact, Lehman et al. is different in that it uses motion from the side of the switching apparatus actuated by motion from the side of the switching apparatus. Thus, not only does Lehman et al. not disclose the specific arrangement shown, it uses a distinctly different arrangement. The arrangement in Lehman et al. requires substantial side access to the contactor to install the auxiliary electrical contact.

McGary discloses use of a mortise and tenon to interconnect contact carriers in a main switch and contact assembly. The main switch contact carrier has a tenon 43 that moves up and down. The tenon 43 is inserted in a mortise 67, see Fig. 6, to cause a contact carrier on the contact assembly to likewise move up and down. The mortise and tenon do not mount the contact block to the main housing. The mortise and tenon mount contact carriers to one another. Instead, the contact block is mounted to the main housing using screws 110.

The action indicates that a skilled artisan would have substituted the mortise/tenon of McGary for the locking means of Lehman et al. to provide a tight lock when the auxiliary switch is attached to the switching apparatus. As noted, the mortise and tenon of McGary do not provide a tight lock for the auxiliary switch. They provide engagement between contact carriers. McGary uses screws to provide a tight lock of the auxiliary switch to the switching apparatus. Therefore, the noted motivation is not present and the combination is improper. McGary would be relevant to Lehman et al. with respect to engagement between the slider operating arm 110

and carrier 150. However, Lehman et al. use a cavity 152 providing a loose connection between contact carriers. The combination is improper.

Also, claim 1 specifies that the housing is joined to the electrical switching apparatus using linear motion of the housing in a single axis motion from in front of the electrical switching apparatus and means engaged and actuated by the linear motion of the housing from in front of the electrical switching apparatus for resiliently locking the housing to the electrical switching apparatus. This is a single axis motion from in front of the housing. Lehman et al. require a dual axis motion. This is apparent in viewing Figs. 8-13 which shows the auxiliary contact must first be positioned alongside the main housing and then moved in a transverse direction, as shown in Figs. 9 and 12, to actuate the lever and engage the hooks in the opening, and then move the auxiliary contact in the second axis motion, see Figs. 10 and 13, to lock the device. Such two axis motion required by Lehman et al. to actuate the locking lever is inconsistent with the use of a mortise and tenon. Moreover, it does not result in a structure in which the resilient locking means is engaged and actuated by the linear motion of the housing from in front of the electrical switching apparatus.

Therefore, in addition to the combination being improper, the combination would not result in the claimed invention.

Reid et al. is cited for disclosing an auxiliary switch including a resilient locking portion 42c for cooperating with the contactor housing. Applicants do not understand the citation of Reid et al. The locking mechanism of Reid et al. is substantially identical to that of

Lehman et al. Reid et al. uses hooks 42b and 42d for engaging with slots in the housing along with a resilient catch 42c. The action further states that "It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a resilient locking portion on one of the contactor housing or switch module in Lehman et al., as modified, for the purpose of securing the module in place once mounted". Initially, it is not apparent what is meant by Lehman et al. "as modified". In any event, Reid et al. adds nothing to Lehman et al. Lehman et al. includes its own resilient locking portion for the purpose of securing the module in place once mounted.

Finally, the action indicates that the alleged combination "discloses the claimed invention except for the specific positioning of the actuator". Ignoring the propriety of the combination, for argument sake, Lehman et al. could not use the claimed positioning relationship from the front of the housing. This is due to the dual axis motion required for the interlocking structure of Lehman et al. It is not a mere reversal of interlocking parts that distinguishes the claimed invention from the cited references. The references use distinct locking structure from that claimed owing to the different nature of the operation provided thereby.

For the above reasons, applicants submit that the combination of the references is improper. Therefore, claim 1 and its dependent claims 3-5 are believed allowable and withdrawal of the rejection is requested.

Independent claim 6 specifies an electrical switching system comprising a main housing enclosing an actuable apparatus including an actuator extending outwardly of the main

housing. A contact housing encloses an electrical contact and a pusher is selectively actuatable by the actuator to operate the contact. A mortise on one of the main housing and contact housing and a tenon on the other of the main housing and contact housing join the contact housing to the main housing using linear motion of the contact housing from in front of the main housing. A snap lock actuated by the linear motion of the contact housing in a single axis motion from in front of the main housing engages and resiliently locks the contact housing to the main housing.

Independent claim 6 is believed allowable for the same reasons discussed above relative to claim 1. Particularly, the mounting structure for the cited references are distinct and are not combinable. Therefore, claim 6 and its dependent claims 7-12 are believed allowable. These dependent claims also specify details of the construction which further distinguishes them from the cited references. For example, claim 9 specifies that the main housing comprises first and second parallel ribs having facing channels to define the mortise and a third rib extending angularly from the first and second ribs. No such ribs are disclosed in any of the references. The action does not identify any. Claim 10 specifies that the snap lock comprises a flexible web extending from the contact housing with a projection on the web engaging the third rib. Again, there is no such structure in any of the cited references. Nor does the action identify any.

Independent claim 13 specifies an electrical switching apparatus comprising a main housing enclosing an actuatable apparatus including an actuator having opposite ends extending outwardly of opposite sides of the main housing. A contact housing encloses an electrical contact and a pusher selectively actuatable by the actuator to operate the contact. A

mortise on each side of the main housing and a tenon on each side of the contact housing join the contact housing to either side of the main housing with a pusher proximate one of the ends of the actuator using linear motion of the contact housing from in front of the main housing. A snap lock actuated by the linear motion of the contact housing in a single axis motion from in front of the main housing engages and resiliently locks the contact housing to the main housing.

Independent claim 13 and its dependent claims 14-19 are believed allowable for the same reasons as discussed above relative to claims 1 and 3-12. Additionally, none of the references disclose a mortise on each side of the main housing and a tenon on each side of the contact housing so that the same contact housing can be mounted on either side of the main housing.

Independent claim 20 specifies the method of mounting a contact block to an electrical switching apparatus, comprising: providing a main housing and enclosing an actuable apparatus including an actuator having opposite ends extending outwardly of opposite sides of the main housing and a mortise on each side of the main housing aligned with a rib; providing a contact housing enclosing an electrical contact and a pusher selectively actuable by the actuator to operate the contact and having a tenon and a snap lock element; joining the contact housing to either side of the main housing with the pusher proximate one of the ends of the actuator by sliding the tenon in one of the mortises using linear motion of the contact housing from in front of the main housing; and resiliently locking the contact housing to the main housing by engaging

the rib with the snap lock element responsive to the linear motion of the contact housing in a single axis motion from in front of the main housing.


Claim 20 and its dependent claim 21 are believed allowable for the same reasons discussed above relative to claims 1 and 3-19. Additionally, the references do not disclose or suggest resiliently locking a contact housing to a main housing by engaging a rib on the main housing with the snap lock element.

For the above reasons, claims 1 and 3-21 are believed allowable and withdrawal of the rejection is requested.

Reconsideration of the application and allowance and passage to issue are requested.

Respectfully submitted,

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